Duke Energy Center - Lighting Policy
Version 1.6
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The Duke Energy Center utilizes a lighting control system to reduce energy consumption by dimming perimeter lights in response to available natural light, turning tenant lights off during non building occupied hours and turning lights off in all enclosed rooms when unoccupied regardless of the time of day. The following outlines the parameters of the policy necessary to support this goal.

Definitions

1. Building Occupied Hours (for purposes of this policy) are 7:00 am to 7:00 pm Monday – Friday. Non Building Occupied Hours are all other hours on weekdays and all hours on weekends and holidays.
2. All lights in, on or around the building or the property will be classified in one of the following four categories of lighting; Core Floor and Common Area Lights, Tenant Lights, Emergency Lights or Special Purpose Lights.
3. Core Floor and Common Area Lights are all lights on tenant floors except for Tenant Lights, Emergency Lights and Special Purpose Lights. Core Floor and Common Area Lights include all "non tenant" common area lights on each floor including lights in building core rooms (elevator lobbies, restrooms, mechanical rooms, electrical rooms, telephone rooms, elevator machine rooms, fire pump rooms, and janitor closets).
4. Tenant Lights are all lights located within each tenant space attached to either the ceiling or wall.
5. Emergency Lights are lights that are required by code to be supplied from emergency generator power and must be instantly on in the event of a power failure. The lights include stairwell lights and certain designated lights on each floor.
6. Special Purpose Lights are miscellaneous lights that are required to be on at times different from Tenant Lights. These include but are not limited to tenant cubicle task lights, main building lobby lights, parking garage lights, elevator cab lights, desk lamps, loading dock lights, exterior safety lights, exterior architectural lights, etc.
7. The Building Lighting Control System (BLCS) will automatically turn on all Tenant Lights at the beginning of Building Occupied Hours and turn them off at the end of Building Occupied Hours each day.
8. Spaces within the building are classified in one of the following classifications: Rooms, Open Spaces, Specialty Areas
9. A Room is a space that meets the following criteria:
    a. A smaller space separated by closeable doors from a larger space.
    b. The closeable doors do not lead to more than two other spaces.

With Respect to Tenant Lights, Rooms include all spaces with closeable doors and include, but are not limited to offices, conference rooms, break rooms, supply rooms, telecom rooms and storage rooms.

10. An Open Space is a larger space separated by closeable doors leading to more than two smaller spaces. Generally an Open Space is any space other than a Room or a Specialty Area and would typically include areas with multiple workstations.
11. A Specialty Area is an area with custom lighting needs that could include audio visual requirements or lighting scenes. These areas could include board rooms, conference centers, reception areas, galleries, and other areas based on the tenant lighting design requirements.

Policy

1. All Core Floor and Common Area Lights (except for elevator lobby lights) will be controlled by an Occupancy Sensor that will automatically turn them off if not occupied and on if occupied regardless of time of day. Elevator lobby lights will remain on 24x7.
2. All Tenant Lights within Rooms will be required to be controlled by Occupancy Sensors that will automatically turn them off if not occupied and on if occupied regardless of time of day.
3. All Tenant Lights in Open Spaces must be provided with a means of turning the lights on and off again during Non Building Occupied Hours. This feature shall be tied to the BLCS to allow building management the exclusive ability to make global changes from a central control point. During Non Building Occupied Hours, occupants (tenant employees, cleaning personnel or security officers on nightly rounds) shall have a means of having sufficient light available for them to accomplish their tasks while minimizing the amount of wasted light and energy. This feature will be provided by the use of Zone Occupancy Sensors which shall be provided for lighting zones not exceeding the lesser of 2000 square feet or 24 light fixtures. The sensors will not be operable during Building Occupied Hours for these areas.
4. All Tenant Lights located within 15 feet of any building perimeter windows shall be installed perpendicular to the windows. All Tenant lights located within 15 feet of any perimeter windows shall be dimmable and shall be controlled by a light sensing device that will dim the lights in relation to the natural light available. This dimming device will allow additional light dimming by the occupant but shall not allow increased light levels above the default light level established by the daylight sensor.
5. Lighting of Rooms and Open Spaces will be controlled by a single Building Lighting Control System (BLCS) managed by the Landlord. To facilitate this goal Landlord has selected Lutron Quantum for lighting controls. Therefore, Tenants are required to use Lutron lighting products for daylight sensors and occupancy sensors for all Tenant Lighting in Open Spaces and Rooms. To facilitate tenant compliance with this policy, the Landlord will provide Building Standard Light Fixtures with Lutron EcoSystem ballasts.
6. Lighting scene control in Specialty Areas may be accomplished with lighting products other than Lutron at Tenant's discretion and will not connect to Landlords BLCS; however, the lighting products must be equipped with a feature that will allow the lights to be off during Non Building

Occupied Hours or during hours in which the room is not being used unless the room is being used during Non Building Occupied Hours. The tenant will be required to program these lights to turn off during Non Building Occupied Hours and to monitor these lights to ensure policy compliance.

7. Tenant final "for construction" engineering plans and specifications indicating lights and lighting controls must be approved by Landlord or Landlord's representative prior to installation.
8. Tenants will be responsible for establishing and commissioning of the lighting zones and integration of those zones into the BLCS. The Landlord will assist with this effort. The completed final commissioning must be approved by the Landlord.

Lights and Lighting Components

1. Light Fixtures – Tenant will be provided with Building Standard Light Fixtures stacked on their floor. The number of Building Standard Light Fixtures to be provided is based on square footage as defined below or as more specifically defined in each Tenant's lease. Tenant will be required to use Building Standard Light Fixtures in all Open Spaces and Rooms. Building Standard Light Fixtures will contain Lutron EcoSystem dimmable ballasts and one T5 HO lamp as more fully described in Exhibit A attached.
2. Lamps - It is important for the building to have a consistent appearance when viewed from the outside and having a single florescent lighting color for the entire building is key to this goal. Therefore, all florescent lamps shall be 3500 KV. One lamp will be supplied with each Building Standard Light Fixture. See Exhibit A for the specifications for the Building Standard florescent lamp.
3. Occupancy Sensors – Landlord shall provide Tenant with Building Standard dual technology (ultrasonic and passive infrared) ceiling mounted occupancy sensors. The number of Building Standard Occupancy Sensors to be provided is based on square footage as defined below or as more specifically defined in each Tenant's lease. Tenant may be required to purchase more of these occupancy sensors depending on their space layout and number of Rooms. See Exhibit A for the specifications for the Building Standard Occupancy Sensor.
4. Daylight Sensor with IR Receiver – One daylight sensor shall be required for every 30' of exterior glazing. The number of Building Standard Daylight Sensors to be provided is based on square footage as defined below or as more specifically defined in each Tenant's lease. See Exhibit A for specifications for Building Standard Daylight Sensors.
5. Dimming Wall Controls / Switches – All dimming wall stations and switches shall be provided by Tenant. Tenant is encouraged but not required to use the Building Standard Lutron dimming button wall station. All Tenant provided dimming wall controls or wall switches must be compatible with the Lutron EcoSystem ballast.
6. EcoSystem Buses – All controls for Tenant Lights within Rooms or Open Spaces must be tied to the building BLCS. The number of Quantum Lighting Hubs (each including 6 buses) to be provided is based on square footage as defined below or as more specifically defined each Tenant's lease. See Exhibit A for the specification of the Quantum Lighting Hubs.

Lighting Components Provided by Landlord to Tenant – Default Quantities for Full Floor Occupancy

1. Light Fixtures – Tenant will be provided with twelve **(12)** Building Standard Light Fixtures per 1,000 Rentable Square feet
2. Occupancy Sensors – Landlord shall provide thirty **(30)** Building Standard dual technology (ultrasonic and passive infrared) ceiling mounted occupancy sensors per floor to include (10) 2,000 sq. ft. occupancy sensors and (20) 500 sq. ft. occupancy sensors.
3. Daylight Sensor with IR Receiver – Landlord shall provide twenty-four **(24)** Building Standard Daylight Sensors per floor.
4. EcoSystem Buses –Landlord shall provide one (**1**) Quantum Lighting Hub (each including 6 buses) for each floor.

Lighting Components to be Provided by Tenant

1. All Building Standard light fixtures, occupancy sensors, daylight sensors and EcoSystem buses required by Tenant in excess of the quantities provided by Landlord shall be provided by Tenant.
2. Dimming Wallstations / Switches – All dimming wallstations or switches shall be provided by Tenant.
3. Factory start-up and programming of ballasts, controls, sensors, bus supplies, and other devices shall be provided by Tenant.
4. All other components of tenants lighting system including all non building standard light fixtures shall be provided by Tenant.